

AMENDMENTS TO THE CLAIMS

Listing of claims:

This listing of claims replaces all prior versions and listings of claims in the application.

1. (Currently Amended) A foamed partly-finished product, comprising destructured or complexed starch foamed as a continuous phase, having a density of from 20 to 150 kg/m³, cell size of from 25 to 700 μm and a cell distribution such that ~~at least~~ 80% of the cells have, in the absence of stretching, a size ranging from 20 to 400 μm, said destructured or complexed starch is a natural starch derived from one member selected from the group consisting of potato, wheat, and tapioca starch, wherein the starch of the foamed product has an intrinsic viscosity in DMSO at 30°C of from 0.3 to 1.5 dl/g and the foamed partly-finished product has a closed cell morphology in which the cells are substantially non-communicating with one another.

2. (Previously Presented) A foamed partly-finished product according to claim 1, having a density of from 25 to 100 kg/m³, cell size of from 40 to 600 μm and a cell distribution such that at least 80% of the cells have, in the absence of stretching, a size ranging from 25 to 300 μm.

3. (Previously Presented) A foamed partly-finished product according to claim 2, having a density of from 30 to 70 kg/m³ and a cell distribution such that at least 80% of the cells have, in the absence of stretching, a size ranging from 30 to 200 μm.

4. (Previously Presented) A foamed partly-finished product according to claim 3, having a density of from 30 to 70 kg/m³ and average cell size ranging from 80 to 120 μ m.

5 - 6 (Canceled)

7. (Previously Presented) A foamed partly-finished product according to claim 1, wherein the modified starch is selected from the group consisting of physically or chemically modified starches, ethoxylated starches, acetate starches, butyrate starches, propionate starches, hydroxypropylated starches, cationic starches, oxidated starches, cross-linked starches, gelatinised starches, starches complexed with molecules and/or polymers able to give "V" type complexes, dextrinated starches and starches grafted with chains selected from polyesters, polyurethanes, polyester-urethanes, polyureas, polyester-ureas, polysiloxanes, silanes, titanates, and fat chains.

8. (Previously Presented) A foamed partly-finished product according claim 1, in the form of products with hinges obtained in a forming phase capable of resisting at least ten consecutive opening/closing cycles at 35% RH and 23°C without breaking, by using 2 - 4 seconds for each opening and closing operation.

9. (Canceled)

10. (Previously Presented) A foamed partly-finished product according to claim 1, wherein the intrinsic viscosity in DMSO at 30°C is from 0.4 to 1.2 dl/g.

11. (Previously Presented) A foamed partly-finished product according to claim 10, wherein the intrinsic viscosity in DMSO at 30°C is from 0.6 to 1.1 dl/g.

12. (Previously Presented) A foamed partly-finished product according to claim 1, containing one or more thermoplastic polymers with a melting point of from 60 to 175°C.

13. (Previously Presented) A foamed partly-finished product according to claim 12, wherein the thermoplastic polymer is selected from the group consisting of a polymer of natural origin which can be modified or non modified, a polymer derived from cellulose as cellulose acetate, cellulose propionate, cellulose butyrate and their co-polymers, with a degree of substitution lying between 1 and 2.5; polymers of the alkyl cellulose, hydroxy alkyl cellulose, carboxy alkyl cellulose type, carboxy methyl cellulose, nitrocellulose and chitosan pullulan or casein and casinate, zein, soya protein, alginic acid and alginates, natural rubbers, polyaspartates; glutens, and dextrens.

14. (Previously Presented) A foamed partly-finished product according to claim 12, wherein the thermoplastic polymer is selected from the group consisting of biodegradable

polymers of synthetic or fermentative origin, polyesters of the type including polymers or co-polymers of C₂-C₂₄ aliphatic hydroxy acids, or their corresponding lactones or lactides, polymers of lactic acid having various D/L lactic acid ratios, co-polymers of polylactic acid with aliphatic and aliphatic-aromatic polyesters, polycaprolactone, polyvalerolactone, their co-polymers and also polyesters derived from difunctional acids and aliphatic diols, aliphatic-aromatic polyesters, co-polymers of the type including alkaline-terephthalate adipate treated or not with chain extenders, optionally with quantities of tereftalic acid less than forty mole percent, epoxy resin and bisphenolic resin.

15. (Previously Presented) A foamed partly-finished product according to claim 12, wherein the thermoplastic polymer is a polymer containing hydrophilic groups intercalated in hydrophobic sequences selected from the group consisting of ethylene-vinylalcohol co-polymers, ethylene vinylacetate co-polymers, acrylic esters, acrylic ethylene-ester co-polymers, co-polymers of ethylene with unsaturated acids selected from the group consisting of acrylic acid, methacrylic acid, crotonic acid, itaconic acid, co-polymers with hydrophilic units with a functional alcoholic a carboxylic group in aliphatic polyesters and/or aromatic-aliphatic polyesters, and epoxy resins including resins containing bisphenols.

16. (Previously Presented) A foamed partly-finished product according to claim 12, wherein the thermoplastic polymer is a polymer able to form hydrogen bonds with the starch

selected from the group consisting of polyvinyl alcohol with various degrees of hydrolysis, optionally modified with acrylates or methacrylates, and polyvinyl alcohol preliminarily plastisized or modified for the purpose of lowering its melting point.

17. (Previously Presented) A foamed partly-finished product according to claim 12, containing polymers selected from the group consisting of polyvinylalcohol, copolymers of an olefin polymer, ethylene, with a monomer chosen from vinyl alcohol, vinyl acetate, acrylic acid and methacrylic acid, aliphatic polyesters, caprolactone, the polyalkylene succinates, the polymers of azelaic acid, sebacic acid, brassilic acid and their co-polymers, aliphatic polyamides, polyalkylenesebacates, polyalkylene-azelates, polyalkylenebrassilates, with diols comprised between C₂-C₁₃, polyesters containing dimeric acids, aromatic-aliphatic polymers of the polyalkylene terephthalate adipate type and the epoxy resins, with bisphenolic groups.

18. (Previously Presented) A foamed partly-finished products according to claim 1, containing nucleating agents for the starting composition in concentrations of from 0.05 to 10% by weight.

19. (Previously Presented) A foamed partly-finished product according to claim 18, wherein the nucleating agent is constituted by inorganic compositions selected from the group

consisting of talc (magnesium silicate), calcium carbonate, sulphates of sodium and barium, titanium dioxide, optionally surface treated with adhesion promoters.

20. (Previously Presented) A foamed partly-finished product according to claim 1, containing organic fillers and fibres selected from the group consisting of wood powder, cellulose, grape residue powder, bran, maize husks and other natural fibres in concentrations of from 0.5 to 20%.

21. (Previously Presented) A foamed partly-finished product according to claim 1, containing nucleating agents, lubricants and/or dispersants and plasticisers.

22. (Previously Presented) A foamed partly-finished product according to claim 1 containing alimentary oils selected from group consisting of palm oil, maize oil, soya oil, sunflower oil, C₁₂ to C₂₂ fatty acids, their glycerides with various degrees of substitution, and hydrogenated fats of animal or synthetic origin which are solid at least at ambient temperatures, or above ambient temperatures, to improve the moisture resistance and reduce the wettability by water.

23. (Previously Presented) A foamed partly-finished product according to claim 1 containing weak acids selected from the group consisting of lactic acid, tartaric acid, and citric acid to regulate the viscosity of the starch during the extrusion process.

24. (Previously Presented) Products and partly-finished products obtained from the foamed partly-finished products of claim 1, obtained by lamination with layers of non-woven fabric, woven fabric, paper, biodegradable and non-biodegradable films or aluminium.

25. (Previously Presented) Products and partly-finished products according to claim 24 produced by lamination with non-woven fabric or woven fabric of natural fibres, fibre based on polysaccharides or fibres produced starting from biodegradable polymers.

26. (Previously Presented) Products and partly-finished products according to claim 24 coupled with films constituted by biodegradable polymers.

27. (Previously Presented) Products and partly-finished products obtained from the foamed partly-finished products of claim 1, by way of coating with emulsions, dispersions, solutions, hot melts of biodegradable polymers.

28. (Previously Presented) Products and partly-finished products according to claim 26, in which the films are coupled to the partly-finished products by temperature and/or the application of suitable biodegradable adhesives based on polymers of lactic acid, polyurethanes, polyvinylactates and polyvinylalcohols, proteins, starches, dextrans and other polysaccharides.

29. (Previously Presented) Products and partly-finished products according to claim 26, wherein the films can be obtained from cast and bubble film-forming and can be co-extruded with an adhesive surface for the foamed support.

30. (Previously Presented) Products and partly-finished products according to claim 29, wherein the films have a melting point greater than 60° C.

31. (Previously Presented) A sheet according to claim 26 formable as a non-laminated sheet.

32. (Previously Presented) Products and partly-finished products obtained from the materials of claim 1, treated with natural and synthetic waxes with melting points up to 120°C.

33 - 38 (Canceled)

39. (Previously Presented) Combinations of partly finished product according to claim 1 in multilayer structures to form products of various geometry.

40. (Previously Presented) Combinations of materials according to claim 1, with other supports to provide multilayers mixed with wood, paper, cardboard, non-woven fabric, woven fabric of natural or synthetic fibres, aluminium or other metals.

41 - 45 (Canceled)

46. (Withdrawn) A foamed partly-finished product, comprising destructured or complexed starch foamed as a continuous phase, having a density of from 20 to 150 kg/m³, cell size of from 25 to 700 μm and a cell distribution such that 80% of the cells have, in the absence of stretching, a size ranging from 20 to 400 μm , said destructured or complexed starch is a natural starch derived from maize, wherein the starch of the foamed product has an intrinsic viscosity in DMSO at 30°C of from 0.3 to 1.5 dl/g and the foamed partly-finished product has a closed cell morphology in which the cells are substantially non-communicating with one another.

47. (Previously Presented) A formed partly-finished product according to claim 1, wherein said destructured or complexed starch has an amylose content of 28 wt% or less.

48. (Previously Presented) A formed partly-finished product according to claim 1, wherein said destructured or complexed starch has an amylose content of 26 wt% or less.

49. (Previously Presented) A formed partly-finished product according to claim 1, wherein said destructured or complexed starch has an amylose content of 20 wt% or less.

50. (Withdrawn) A formed partly-finished product according to claim 46, wherein said destructured or complexed starch has an amylose content of 28 wt% or less.

51. (Previously Presented) A foamed partly-finished product adapted to be further processed into a finished article of manufacture comprising destructured or complexed starch foamed as a continuous phase and a thermoplastic polymer, said article having a density lying between 20 and 150 kg/m³, cell dimension in a range between 25 and 700 μ m with a cell distribution such that 80% of them have, in the absence of stretching, a dimension lying between 25 and 400 μ m, wherein the material from which the foam is made has an intrinsic viscosity in DMSO at 30° lying between 1.5 and 0.3 dl/g and said thermoplastic polymer comprises polyesters derived from di-functional acids and aliphatic diols or aliphatic-aromatic polyesters.